

CLAIMS

What is claimed is:

1. A method for accessing a broad data field having fine resolution comprising:
  - selecting a first scale from a variable scale for controlling a magnification for accessing data within the data field;
  - moving the range to encompass different portions of the data field; and
  - changing simultaneously the scale while moving the range over different portions of the data field.
2. The method as defined by Claim 1 wherein the scale is controlled by moving a cursor positioning device along a first axis.
3. The method as defined by Claim 2 wherein the range movement is controlled by moving a cursor positioning device along a second axis.
4. The method as defined by Claim 2 wherein the range movement is controlled by moving the cursor positioning device in an axis orthogonal to the scale axis.
5. The method as defined by Claim 4 wherein moving the cursor positioning device in an upward motion increases the scale and moving the cursor positioning device in a downward motion decreases the scale.
6. The method as defined by Claim 5 wherein moving the cursor positioning device to the right causes the range to be shifted to the right and moving the mouse to the left causes the range to be shifted to the left.
7. The method as defined by Claim 6 wherein the particular piece of data can be accessed within the data field having six orders of magnitude.

8. The method as defined by Claim 7 wherein the range is depicted by a timeline.

9. The method as defined by Claim 8 wherein the cursor positioning device is also capable of controlling the position of a cursor on a display screen.

10 The method as defined by Claim 9 wherein the scale and range are capable of being controlled by positioning a cursor over an icon and depressing a button.

11. The method as defined by Claim 1 wherein the cursor positioning device is at least one of a mouse, a track ball, a touch tablet, a joystick.

12. A method for accessing a particular piece of data within a broad data field having fine resolution comprising:

selectively varying a scale, thereby determining a range, the range spanning a portion of the data field;

moving the range relative to the data field, thereby encompassing portions of the data field such that the particular piece of data lies within the range;

locating a first point close to the location of the particular piece of data; decreasing the scale, thereby increasing the range's resolution, while simultaneously moving the range relative to the data field to keep the first point within the decreased range;

locating a second point which is closer to the location of the particular piece of data than the first point's location;

decreasing the scale while simultaneously moving the range relative to the data field to keep the second point residing within the range; and

successively decreasing the scale while scanning across the range, locating points successively closer to the location of the particular piece of data, and keeping the point that is closest to the location of the particular

piece of data within the range, until the particular piece of data is actually accessed.

13. The method as defined by Claim 12 wherein the scale is controlled by moving a mouse along an axis and the range is controlled by moving the mouse along another axis.

14. The method as defined by Claim 13 wherein the mouse is also capable of controlling the position of a cursor on a display screen.

15. The method as defined by Claim 12 wherein the scale is controlled by moving a trackball along an axis and the range movement is controlled by moving the trackball along another axis.

16. An apparatus for accessing a broad data field having fine resolution comprising:

a variable scale for controlling a range within the data field;  
a means for moving the range to encompass different portions of the data field; and

a means for enabling a user to simultaneously select the scale while moving the range over different portions of the data field.

17. The apparatus as defined by Claim 16 further comprising:  
a means for accessing one particular piece of data within the data field, the accessing means including:

a means for scanning data encompassed by the range corresponding to a selected scale;

a means for showing points close to the location of the particular piece of data;

a means for successively decreasing the scale, thereby decreasing the range, resulting in the increase of the range's resolution while simultaneously, locating points successively closer to the location of the

particular piece of data and keeping the closest point within the successively decreasing range, until the particular piece of data is actually accessed.

18. The apparatus as defined by Claim 17 including a switching means for switching the mouse control between controlling a cursor's position on a display screen and controlling the scale and the range.

19. The apparatus as defined by Claim 18 wherein the scale is controlled by moving a mouse along an axis and the range is controlled by moving the mouse along another axis.

20. The apparatus as defined by Claim 19 wherein rightward and upward movement of the mouse corresponds to increasing a parameter and leftward and downward mouse movement corresponds to decreasing the parameter.

21. The apparatus as defined by Claim 20 wherein the range is depicted as a timeline.

22. A method for accessing a data set containing a plurality of items comprising:

providing an input device having two degrees of freedom in a first and a second axis;

providing a means for selecting a scale of access to the data set;

providing a means for adjusting a position of access at the selected scale;

selecting the scale by controlling the input device with relation to the first axis; and

selecting the position of access by controlling the input device with relation to the second axis.

23. The method as defined by claims 22 wherein the input device is at least one of a mouse, a track ball, a touch tablet, a joystick.

24. The method as defined by Claim 23 wherein the first and the second axes of the input device are capable of being remapped such that the input device controls positioning a cursor on a display screen.

25. A method for accessing a particular piece of data within a broad data field having fine resolution comprising:

    providing an input device having a first and a second degree of freedom;

    providing a variable scale to depict the data field at different magnification levels, the scale being controlled by the first degree of freedom of the input device;

    providing a range which encompasses a continuous portion of the data set;

    selecting a scale wherein the particular piece of data lies within the range;

    decreasing the scale such that the magnification level is increased;

    changing the span of the data field covered by the range, according to the scale selected;

    moving the data field such that the particular piece of data falls within the range, the movement controlled by the second degree of freedom; and

    successively repeating the steps of decreasing the scale and moving the data field such that the particular piece of data falls within the range, until the particular piece of data is actually accessed.